Quick Install

Tsunami QuickBridge II T1/E1

Version 2.2

Quick Install Guide

Introduction

The QuickBridge is a complete kit for enabling a wireless broad bandwidth link between two locations. The equipment is pre-configured at the factory to be mounted and connected to your LAN network. Both ends of the link are provided in this kit along with cables and mounting hardware.

The product's principle components consist of a radio unit and a power & Ethernet adapter. The radio is an all-in-one, outdoor unit with an integrated antenna, designed to be mounted on a pole or on a tower structure.

Power and Ethernet connections to the radio unit are supplied through a UV-protected, CAT 5 cable attached to the power & Ethernet adapter. The power & Ethernet adapter should be located inside a building. A straight cable is required when connecting to a PC and a crossover cable when connecting to a hub or switch.

The Tsunami QuickBridge II must be installed professionally.

Perform the following steps in this chapter to install the QuickBridge II system:

1. Gather Required Tools
2. Unpack the Shipping Box Contents
3. Pre-assemble Hardware
4. Connect the Cables
5. Test Back-to-Back
6. Install the Software
7. Setup for Configuration
8. Mount the Radio Outdoors
9. Align the Antenna

STEP 1. GATHER REQUIRED TOOLS AND MATERIALS

You should have the following tools available before installing the Tsunami QuickBridge II radios:

- Phillips (cross-tip) screwdrivers
- Small blade standard screwdriver
- Large blade standard screwdriver
- Wire crimpers (if using connectors that are not pre-made)
- Adjustable 6" wrench
- Weatherproofing material for sealing external connectors (such as butyl tape)
- Straight-through UV-protected CAT 5 or CAT 5e Ethernet cable for connecting to PC, or crossover cable if connecting to a hub or a switch.

Note: Maximum cable lengths to be used with the Tsunami QuickBridge are as follows:

GPS: 25 feet (approx. 8 m)
T1/E1: 655 feet (approx. 200 m)
**Power/Ethernet:** 246 feet (approx. 75 m)

Maximum cable length from the power source to the QuickBridge unit is 75 m, but the cable from the power source to the next device is a total of 100 m. So if you connect a 75 m cable to the QuickBridge unit, you can use a 25 m cable to connect the power supply to your PC or switch.

STEP 2. UNPACK THE SHIPPING BOX CONTENTS

The product's shipping boxes should be left intact and sheltered until arrival at the installation site. Carefully unpack the Tsunami QuickBridge II shipment and check for any shipping damage or missing parts. There are two sets of equipment in the box, as displayed in the following figure.
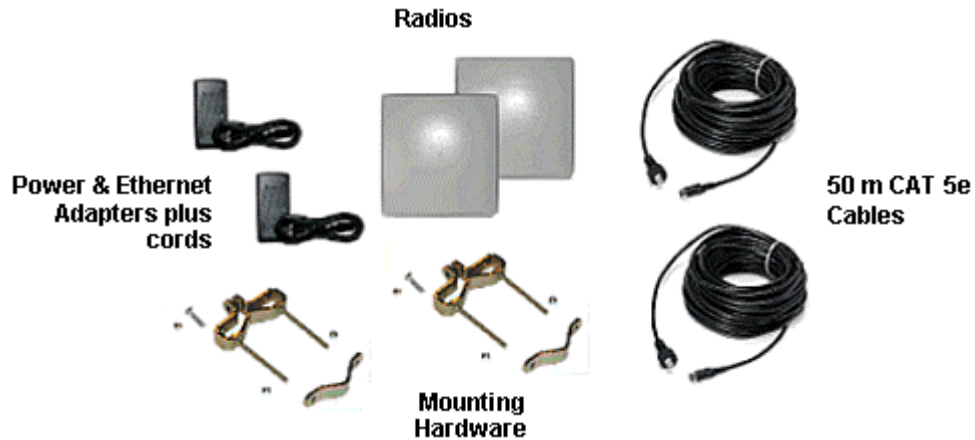
The *Tsunami QuickBridge II T1/E1 Quick Install Guide* and a Documentation and Software CD also are included in the shipment. (Extra screw-on caps to seal unused connector ports are also provided.)
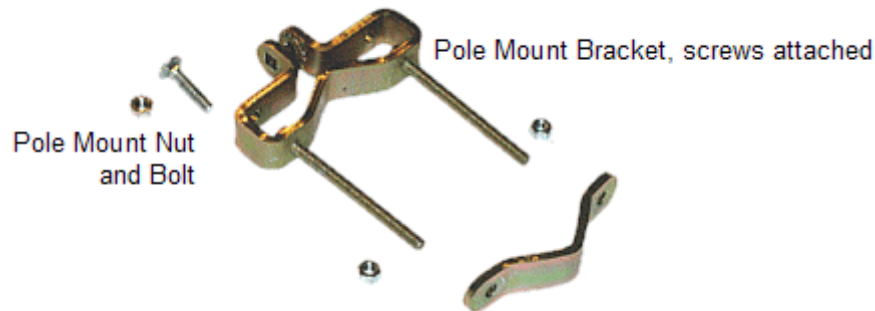
Contact Technical Support regarding any missing or damaged parts.

Notes:

(1) If the shipping container shows signs of damage, immediately notify the transportation company. Upon receipt, inspect contents to ensure no parts are missing or damaged.

(2) Save the original shipping boxes to re-use for shipping the equipment back to the factory, for storage, or for re-shipping the equipment to another location.

STEP 3. PRE-ASSEMBLE HARDWARE

Proxim recommends that you pre-assemble the radio mounting hardware on the ground to familiarize yourself with the equipment and check for any possible damaged or missing components before mounting the radios. This includes attaching the mounting bracket and loosely attaching the washers, lock washers, and lock nuts to the radios. Installers having prior installation experience may choose to skip this step and proceed with Step 3.

- For outdoor installation, the Tsunami QuickBridge II package includes a CAT 5e cable. This is a higher grade than a standard cable.

- For indoor installation, use either a standard CAT 5e or a CAT 5 cable when connecting to the PC.
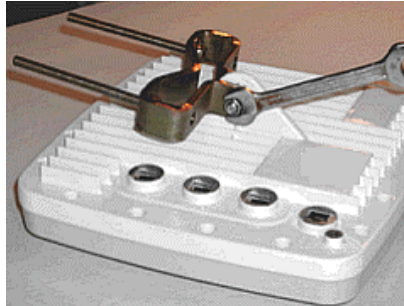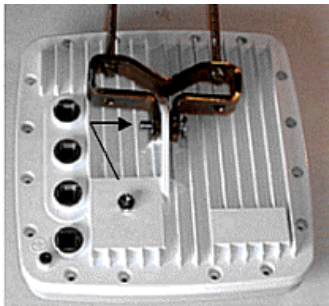
Pre-Assemble Mounting Hardware

Perform these steps on each radio to pre-assemble the mounting hardware on the radios:
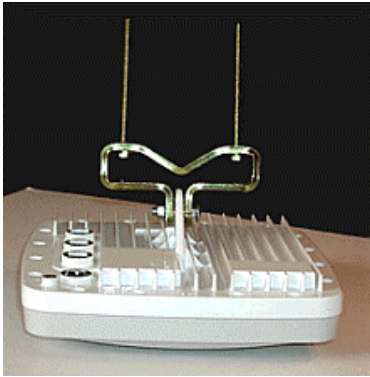
1. Place mounting bracket onto mounting hole on rear of radio unit; insert mounting screw
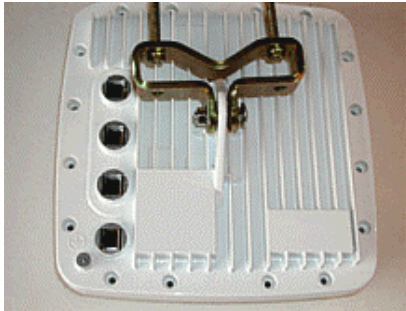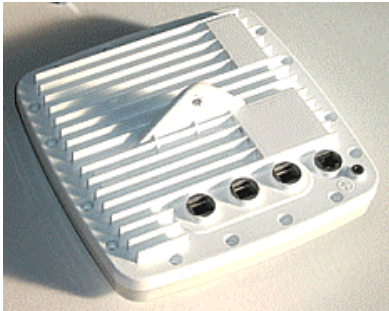

2. Screw locking bolt onto mounting screw.

3. Raise mounting bracket to proper angle and tighten carriage bolt. Use a nut driver or socket wrench to firmly tighten the carriage bolt.

4. Place the other mounting bracket section on the two bracket mounting screws and loosely secure them with the bolts supplied. These bolts are used later to mount the radio unit to a pole (as shown in the second figure below).
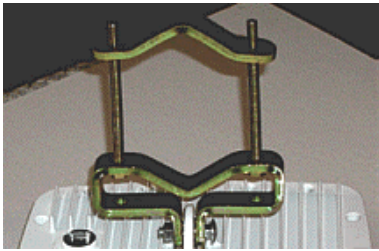
STEP 4. CONNECT THE CABLES

When you initially install the radios, you should configure the radios in the same room. A brief overview of the recommended computer/network configuration follows.

*   Connect one radio to a switch or hub; connect a PC to the same switch or hub.
*   Connect the other radio to another switch or hub and connect another PC to the same switch or hub.
*   Make sure the two switches or hubs are not connected on the same network.
*   Make the other necessary cable connections, as described in the following text.

An interface cable with an 8-pin DIN connector and a weather-tight RJ45 cable are supplied in the product package. You also can construct your own interface cable. See "Constructing an Interface Cable" in *Tsunami QuickBridge II T1/E1 Installation and Management* for instructions.

Note: Maximum cable lengths to be used with the Tsunami QuickBridge are as follows:

GPS: 25 feet (approx. 8 m)
T1/E1: 655 feet (approx. 200 m)
Power/Ethernet: 246 feet (approx. 75 m)

Maximum cable length from the power source to the QuickBridge unit is 75 m, but the cable from the power source to the next device is a total of 100 m. So if you connect a 75 m cable to the QuickBridge unit, you can use a 25 m cable to connect the power supply to your PC or switch.

All cable and waveguides used should be UL-approved for the appropriate environment.

The following steps detail how to connect the cables between the radio, power & Ethernet adapter, and your network.

For each radio/power & Ethernet adapter set, perform these steps:

1. Position the radios approximately 25 feet from each other. Place them on a tabletop or shipping box.

2. Connect the 8-pin DIN connector on the supplied interface cable to the 8-pin DIN port on the power & Ethernet adapter.

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3. Connect the RJ45 connector on the interface cable to the RJ45 port on the back of the radio. Hand-tighten the connector nut; do not use the wrench to tighten the connector. Connect the other end of the interface cable to the Power & Ethernet Adapter.
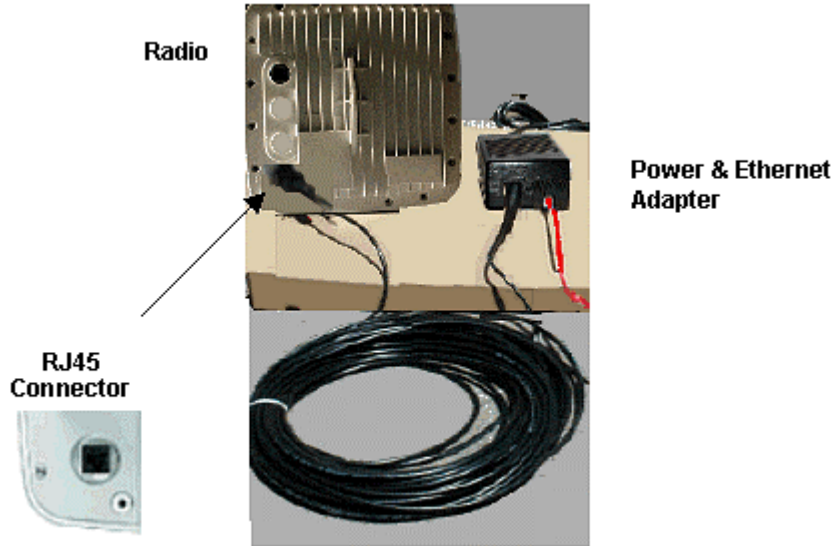

4. Connect an RJ45 connector from a standard CAT 5 or CAT 5e cable (not supplied) to the RJ45 port on the Power & Ethernet Adapter. Connect the other end of the cable to a switch/hub on your network or directly to a PC.

To directly connect the radio to a PC, use a **straight-through Ethernet cable** *between the network interface card in the PC and the RJ45 port on the power & Ethernet adapter.*
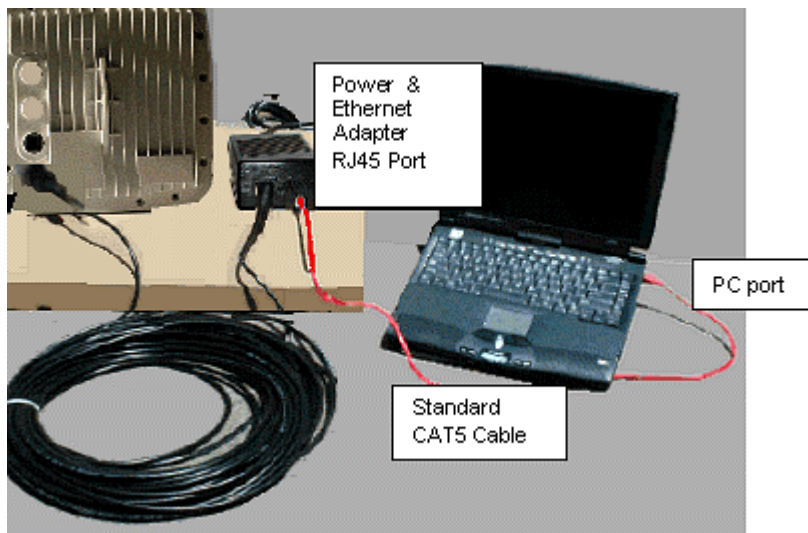
WARNING! *The maximum length of the CAT 5 cable allowed between the radio unit and the power & Ethernet adapter is 75 meters. If you are connecting the radio through a hub or switch, the maximum length of the two CAT 5 cables is 75 feet; for example, if the cable between the radio and the power supply is 50 feet, the cable between the power & Ethernet adapter and the PC can be only 25 feet, for a total length of 75 feet.*

To connect the Power & Ethernet Adapter to a switch or a hub, use a **crossover Ethernet cable***.*
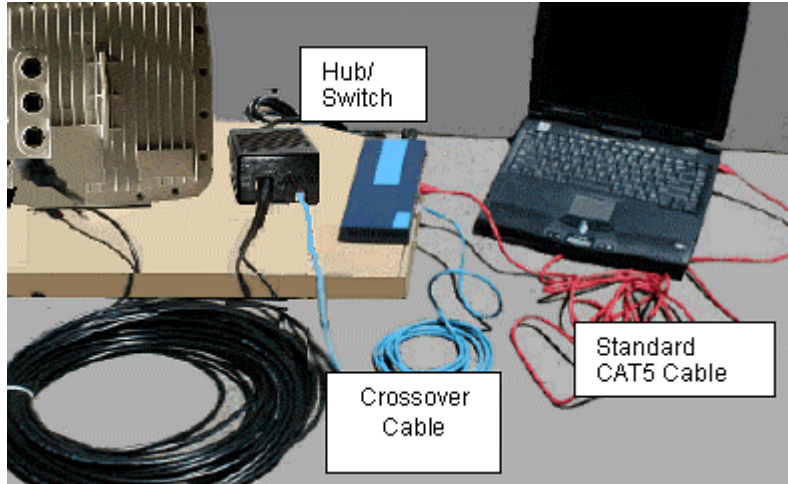
5. If your installed radio is connected to a switch or a hub, connect your PC to the same switch or hub . Each PC is used to configure and control its associated radio.

6. Connect the Power & Ethernet Adapter to a grounded AC power source. A chirping sound should be heard from the radio indicating power to the radio.

7. To pass T1/E1 traffic, connect radio to the T1 circuits using properly shielded 8-pin modular (RJ-48C) connectors. Connect to the E1 circuits using properly shielded 8-pin modular (RJ-45) connectors.

    For information about constructing your own interface cable, see "Constructing an Interface Cable" in *QuickBridge II T1/E1 Installation and Management*.

Notes:

• There is no ON/OFF switch on the radio. To remove power to the radio, unplug the AC cord from the AC outlet or disconnect the 8-pin DIN connector from the Power & Ethernet Adapter.

• The radio software program can run on two PCs connected to both ends of the link and not interfere with one another.


STEP 5. TEST RADIOS BACK-TO-BACK

Before mounting the radios, Proxim recommends a back-to-back test of the radio pair, using one PC per radio. Back-to-back testing is a simple way to verify that the radios are fully operational before they are installed.

The process of installation adds several variables that can add to system turn-up delays during troubleshooting (such as antenna alignment, cabling, and path dynamics). Back-to-back testing can eliminate link problems caused by auxiliary equipment, installation, or the radio path, and isolates potential radio hardware problems.

Note: Back-to-back testing must be performed to verify a radio problem before returning any radio to Proxim for repair.

When the equipment is connected as shown in the following figure, a wireless link should be established.

**POLYPROPYLENE
FIBER SOUND
ABSORPTION PAD**
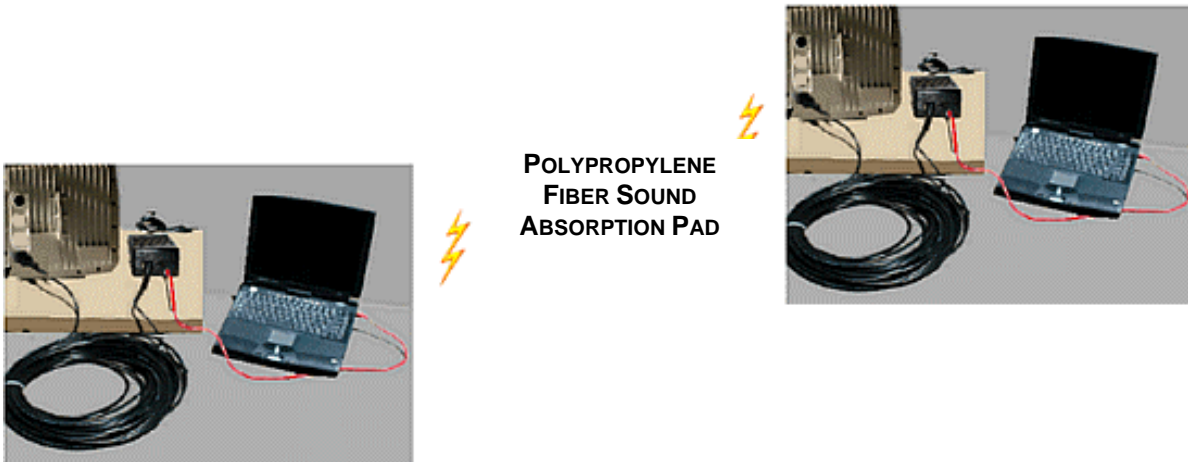
STEP 6. INSTALL THE SOFTWARE

The QuickBridge II includes configuration software (the QuickBridge Manager), which provides basic setup and operating capabilities. Before installing the software, be sure you have configured the radios as described in "Step 4. Connect the Cables."

Note: Install a copy of the QuickBridge Manager on any PC from which you want to control a radio.

To install the QuickBridge Manager:

1. Insert the supplied CD into the PC's CD-ROM drive. Locate the CD-ROM's **Windows** folder and the install program, **install.exe**. Double-click **install.exe** to start the installation program. Your browser may display the **Security Warning** screen; if so, click **Yes** to continue.

2. The **Introduction** window is displayed; click **Next** to continue.
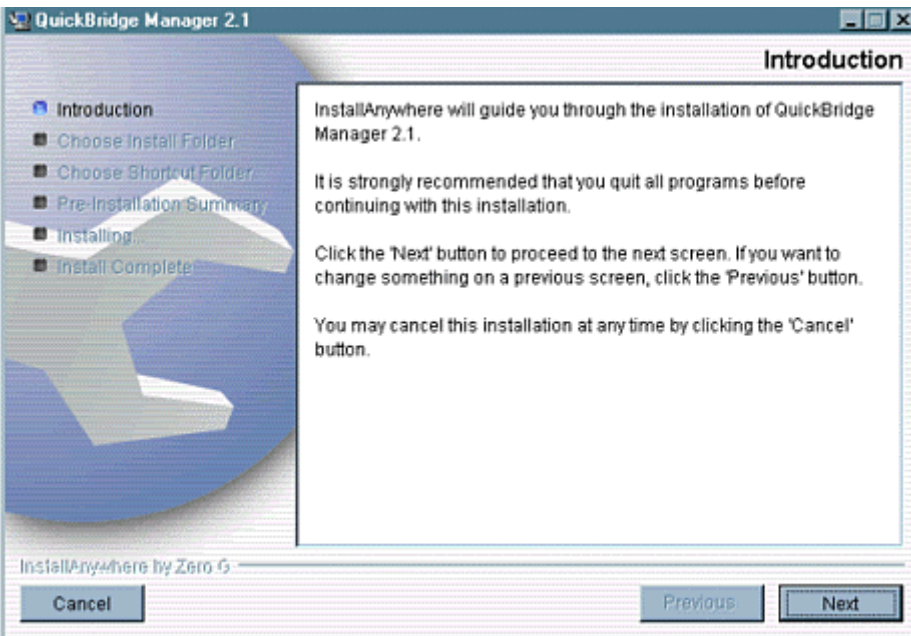
3. The **License Agreement** screen is displayed. After reading and agreeing to the terms, select "I accept the terms of the license agreement," then click **Next** to continue.

4. The **Choose Install Folder** screen is displayed. The recommended installation directory is **C:\Program Files\QuickBridge Manager 2.1**. Click **Next** when you have made your selection or to accept the default folder.

5. The **Choose Shortcut Folder** screen is displayed; click **Next** when you have made your selections or to accept the default folder.

6. The **Pre-Installation Summary** screen is displayed; click the **Install** button to install the configuration software.

7. When installation is complete, the following window is displayed; click the **Done** button to exit the installation program.

STEP 7. SET UP FOR CONFIGURATION

Before configuring the QuickBridge II with the Manager program, you must:

- Have completed "Step 6. Install the Software"
- Change the PC's IP address to fall within the radio's subnet
- Connect the PC
- Apply power to both units

These tasks are covered in the following procedure:

1. Change the PC's IP address to 192.168.20.75 (or a similar address in the same subnet). Use a subnet mask of 255.255.255.0. This change is only temporary. Later, you will be able to change the IP address of the QuickBridge II unit and return your PC to its original IP address.

Notes:

- The IP address of the PC must be in the3 same subnet as the QuickBridge unit in order to use the QuickBridge Manager for configuration.

- The **Master** (or **Primary**) unit is configured at the factory with a default IP address of 192.168.20.56. The **Slave** (or **Secondary**) unit is configured with a default IP address of 192.168.20.51.

2. Connect the PC to the **Master** unit; start the Manager program by clicking on the **QuickBridge Manager** icon. You can connect to the **Slave** unit as well; however, this guide steps you through the initialization process by locally connecting to the Primary.

    > **Note:** The QuickBridge Manager program can run on two PCs connected to both ends of the link without interfering with one another.

3. Apply power to both units by connecting the AC cord of the Power & Ethernet Adapters to an AC outlet. After power is applied and a power-up sequence has been successfully completed, the radios each "chirp" once.

    The radios are now ready for any optional configuration steps, and can establish a wireless link.

STEP 8. MOUNT THE RADIO OUTDOORS

Selecting a Location

When selecting a location in which to install the radios, keep the following points in mind:

*   Determine the direction to the radio
*   Avoid obstructions and foliage that could block the signal
*   Place the power & Ethernet adapter in a weatherproof enclosure near the radio or inside the building.

If necessary, disconnect the cables you used to configure the radios inside, move the radios to their outdoor locations, and then connect them to the network segments you want to bridge.

After you connect each radio to its network segment, make sure you install the configuration software on the two PCs used to control the radios (one PC per radio). Use the configuration software to assign each radio a valid and unique IP address for the network segment to which it is attached.

Be sure to properly weatherproof outdoor connections. See "Weatherproofing Connections" in *Tsunami QuickBridge II T1/E1 Installation and Management*.

CAUTION: *When not using GPS, or when GPS is disabled, do not co-locate two hops on the same side of the building or on the same pole*.
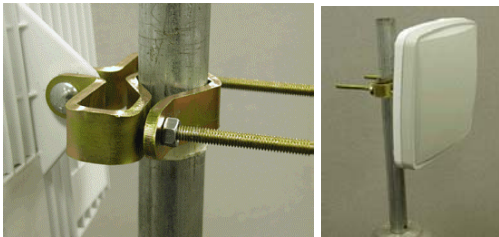
Mounting the Radio to a Pole

The radio is designed to mount directly to a pole. Using optional mounting brackets, you can mount the radio to a wall or other flat surface (see "Mounting the Radio to a Flat Surface").

1. Remove the nuts you loosely attached in "Pre-Assemble Mounting Hardware."

2. Slide the top part of the mounting bracket off of the mounting screws.
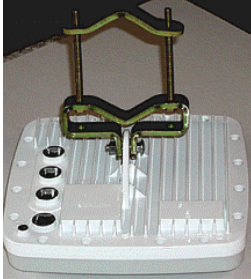
3. Place the radio with mounting bracket at the desired height on the pole and slide the top part of the bracket onto the mounting screws. Screw on the nuts and firmly tighten.

Mounting the Radio to a Flat Surface

To mount the radio to a flat surface:

1. Attach the supplied mounting bracket to the radio using the supplied bolts.
2. Mount the radio and mounting bracket to a flat surface using your own hardware.

Note: To ensure proper grounding, use the hole on the back of each radio and the provided grounding screws to attach a ground wire to each radio. Use proper wire grounding techniques in accordance with your local electrical codes. You also can mount the radios on tall, multi-section poles with guide wires. For these types of installations, you should consult professionals with experience.

STEP 9. ALIGN THE RADIOS

A cellular telephone or two-way radio may be useful for coordinating alignment activities between both ends of the link. Perform a general alignment of the antennas on both ends of the path using binoculars, compass, GPS, or other related tools. You must align the antennas as accurately as possible before passing traffic over the link. This will help in getting the system running more rapidly.

It is critical that you perform antenna alignment on one end of the link at a time, with the other end remaining stationary. In some cases, you may need to perform coarse alignment using a wide arc in both azimuth and elevation while listening to the audio alignment tone to find the main beam of the opposite end antenna.

For information about using the Receive Signal Quality feature to fine-tune alignment, see "Aligning Antennas with QuickBridge Manager" in *Tsunami QuickBridge II T1/E1 Installation and Management*.

Note: When you finish aligning the radios, tighten down the U-bolt nuts and side bolt nuts to secure each radio in its aligned position.

Configuring the QuickBridge Radios

ESTABLISHING A CONNECTION

From the **Connection** window, click on **Discover Radio(s)**. The QuickBridge Manager program should discover all local radios and display the IP address of each discovered unit in the **Radio(s) Available** field.

Notes:

- If you want to connect to a different radio, you can enter the IP address and click the Login button for the Manager to connect to the specified radio.

- The IP address of the PC must be in the same subnet as the QuickBridge unit in order to use the QuickBridge Manager for configuration.

- All units have a default IP address assigned at the factory. The Master is set to 192.168.20.56; the Slave is set to 192.168.20.51.

Once you have selected the radio in which you are interested, click the **Login** button. For first-time configuration, you should login to the **Master** radio. You may have to clear the ARP table in the PC if there was a previous entry for 192.168.20.56.

CONFIGURING SETTINGS

To change settings:

1. Start up the QuickBridge Manager software on the PC connected to the radio whose settings you want to change. When you start the Manager, the **Connection** tab is selected by default.

2. Login to the radio by selecting it from the list of **Radio(s) Available** and clicking **Login**.

   The radios are shipped from the factory without preset passwords; click the **OK** button to log in at the **Admin** level.

   Note: For first-time configuration, you should log in to the Master radio. You may have to clear the ARP table in the PC if there was a previous entry for 192.168.20.56.

   Note: See "Security" in the *Installation and Management* manual for information about setting and changing passwords.

3. Click the **Settings** tab and the **Radio** sub-tab. (The exact window layout depends upon which unit is selected (Master or Slave) and the radio model.)
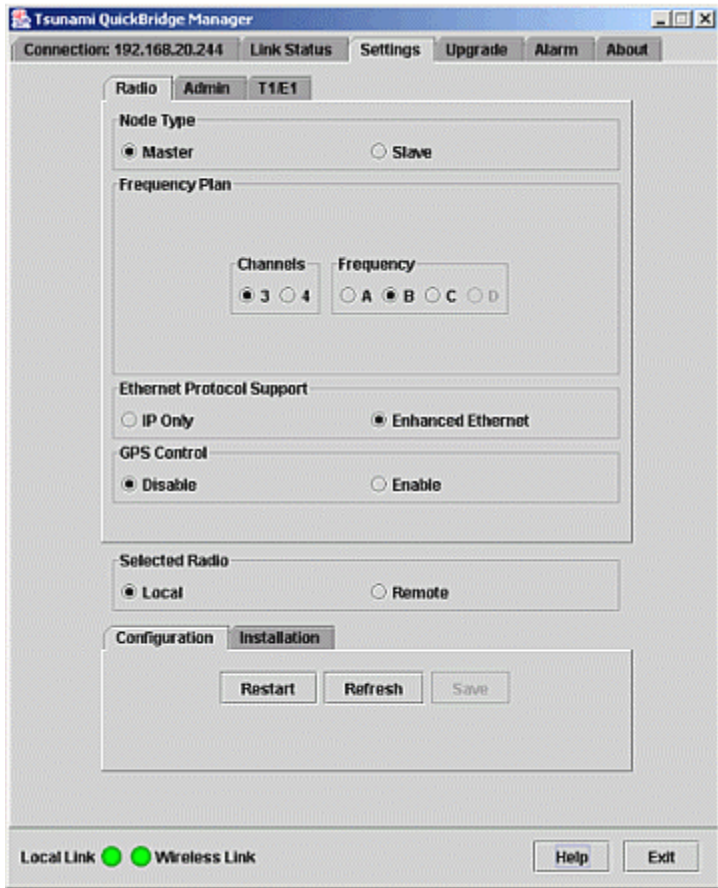
4. If the wireless link is established, you can select either the **Local** or **Remote** device to control from the Selected Radio box.

    Note: The **Selected Radio** box is available on all configuration windows. It indicates which radio is currently selected, **Local** or **Remote**. You can change the currently selected radio by clicking the radio button to the left of the selection.

5. Select the settings you want to define for the radio;

    To save your configuration changes, click **Save**.
    To refresh the screen to the last saved configuration, click **Refresh**.
    Restart causes the radio to reboot.

REVIEWING THE MASTER UNIT'S STATUS

From the **Link Status** window, review the current status of both ends of the QuickBridge link; in this case, the locally connected radio (Master) and the remote radio (Slave). This window is updated as changes occur.
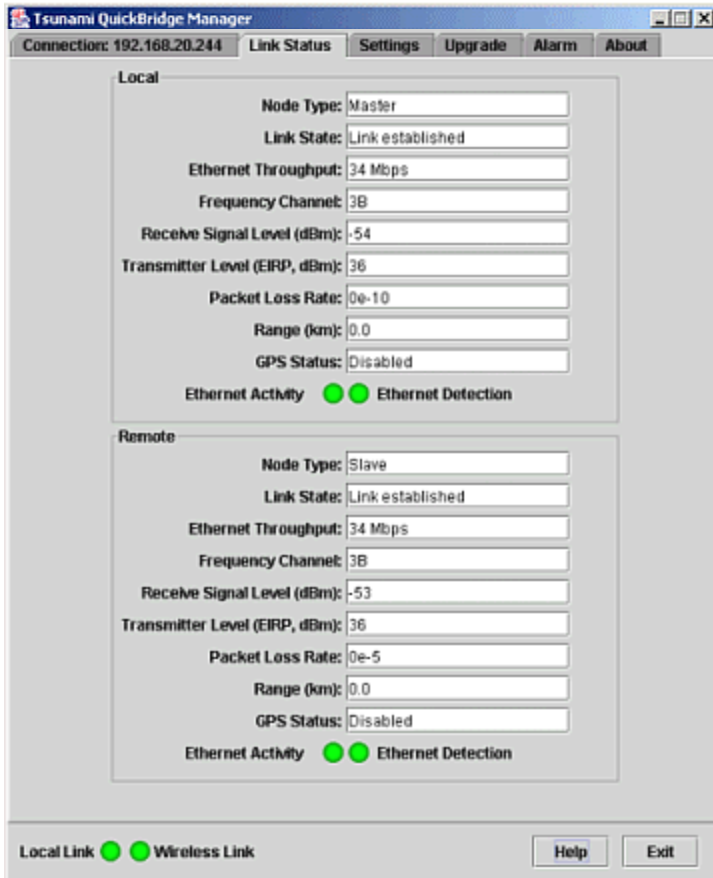
Note: When the link has not been established to the remote unit, the remote status is shaded gray and shows incorrect status. After the link is established, the correct status is reported.

TECHNICAL SUPPORT

If you are having a problem using a Tsunami QuickBridge product and cannot resolve it with the information in "Troubleshooting" in the *Installation and Management* manual, gather the following information and contact Proxim Technical Support:

- What kind of network are you using?
- What were you doing when the error occurred?
- What error message did you see?
- Can you reproduce the problem?

Be sure to:

- Note the serial number of the product before installation. Keep this information in a safe place. The serial number is required to obtain support and can be found only on the back of the unit.

- Obtain an RMA number before sending any equipment to Proxim for repair.

To ask a question of Technical Support, be sure to include the part number and the serial number of the product or products in question. We cannot respond to your inquiry without this information.

To contact Proxim Technical Support by telephone, dial

1-866-674-6626 (Domestic) or **1-408-542-5390 (International)**

Telephone support hours are 6:00 am to 5:00 pm Monday through Friday, PST.

To contact Technical Support online, or to see whether answers to your questions already exist, access Proxim's Support Knowledgebase at http://support.proxim.com/

ENHANCED WARRANTY PACKAGES

Proxim's ServPak program delivers premium support services that complement your Tsunami QuickBridge standard warranty. Available services include, warranty extension, 24x7x365 technical phone support and priority response, and next day priority hardware replacement. For more information, contact Proxim or your Proxim authorized reseller.